

Future of Electronic Waste Management in California
Stakeholder Workshop June 20, 2017
Encouraging Reuse, Repair and Product Longevity

The Electronic Waste Recycling Act of 2003, (SB 20) established a comprehensive system for the collection and management of electronic waste in California, accomplished primarily through a consumer fee and recovery/recycling payment system. The program has been very effective at building an extensive network for the collection of e-waste and ensuring proper handling and processing of covered electronic wastes (CEW).

In addition to the CEW program, SB 20 envisioned a system that would "...provide incentives to design electronic devices that are less toxic, more recyclable, and that use recycled materials." (PRC 42461(a)). The statute also encourages that "...products, components, and devices, to the greatest extent feasible, should be designed for extended life, repair and reuse." (PRC 42461(g)).

Manufacturers of electronic products are charged with certain responsibilities including consumer information, brand labeling, and annual reporting (PRC 42465.1). Manufacturers are required to report annually to the Department (PRC 42465.2) and provide information on CEW sales, the reduction of hazardous materials used in products, the increase of recycled content materials in products, and efforts to increase product design for recycling. However, since no measurable performance targets were included in the legislation, the Department's only enforcement tool is whether the required report is submitted. Consequently, the Act has had little to no impact on product design. Electronic waste management systems that have been implemented in other states and countries, based on an Extended Producer Responsibility or Product Stewardship approach, have also not had a significant impact on environmentally preferable product design. (E-Scrap Conference session 2016, "[Assessing the EPR 'Experiment'](#)"; [Electronics EPR: A Case Study of State Programs in the United States](#)", 2014).

However, in response to consumer preference and environmental impacts, manufacturers have taken steps to design products that are lighter weight, use less material, and are more energy efficient. ([EPSC Canada 2016 Design for the Environment Report](#)) Many manufacturers use the Electronic Product Environmental Assessment Tool (EPEAT) to promote the environmental aspects of their products to large purchasers. EPEAT standards were developed through extensive stakeholder engagement and address multiple environmental attributes such as reduction/elimination of environmentally sensitive materials, design for end of life, product longevity, minimum content of postconsumer recycled plastic, energy conservation, and packaging.

After the passage of SB 20, many stakeholders were disappointed to learn that the Act did not specifically incentivize reuse since devices destined for reuse or repair, rather than for recycling, did not qualify for reimbursement. Even so, for the first several years of the Program's implementation, many stakeholders reported that functional devices or components such as laptops, tablets, or RAM retained sufficient economic value to encourage reuse or resale after needed repairs were made.

With rapidly changing technology and global markets however, that statement may no longer be valid. As mentioned above, some manufacturers are designing their products to use less precious metals and hazardous material. Moreover, the materials within the product that retain value or require special attention due to their hazardous nature are more difficult to access. For example, components such as batteries or memory may be inaccessible or infeasible to harvest or replace due to solder or proprietary fasteners. Consequently, instead of replacing or repairing a failed component, the entire device is discarded or shredded. When this happens, due to the hazardous nature of universal waste, environmental or regulatory issues can occur when certain components (e.g., batteries) are not identified and removed prior to a device being shredded.

The concept of repairing electronic devices with a goal of extending their usable life has gained increasing attention in the past few years. Various organizations (such as [The Repair Association](#) and [iFix-It](#)) have begun to address this issue and are pushing for reform. Legislation has been introduced in eleven states to require

manufacturers to provide access to information, diagnostic tools, and affordable replacement parts needed to repair products. Known as “right-to-repair” bills, none has yet passed for electronics. Other countries and transnational governmental entities, particularly Canada and the European Union, are looking for ways to promote reuse through additional reporting and collection [targets](#).

A significant new development in the right-to-repair issue is the May 30, 2017, [Supreme Court decision](#) in the *Impression Products vs. Lexmark International Printer* company case. Lexmark International recently sued Impression Products, its competitor, for patent infringement, as the latter was refilling Lexmark's cartridges. Lexmark sought to control the use of its cartridges by preventing other companies from reusing and recycling them. The Court ruled that producers cannot control a product through patent law after the product is sold. This may spur further interest in the reuse issue because businesses or individuals who refurbish, repair or resell used products are now protected from patent infringement claims. The ruling also prevents manufacturers from forcing consumers to buy supplies only from the original source.

One concept used in other countries to stimulate environmentally preferable product design is the implementation of modulated/disruptor fees. A modulated approach adjusts fees according to specific design features of a product. A reduced fee may be charged on products with more environmentally preferred attributes while an increased fee is placed on less desirable characteristics. For example, in Europe where modulated fees have been widely employed, fees are reduced when a product is easy to recycle or contains less hazardous materials. In France, the fee for portable computers or TVs containing brominated flame retardants increased by 20% while the fee for LED lighting as opposed to conventional lighting is reduced by 20% owing to the absence of mercury and the long life cycle. With this approach, certain materials and products designed with end-of-life management in mind have a clear price advantage.

Newly passed legislation in France requires manufacturers to tell consumers how long their products will last and how long spare parts for the product will be available. Manufacturers will also be required to repair or replace faulty products at no cost to the consumer within two years of being purchased.

Discussion

Following are some key topics concerning reuse, repair and encouraging product longevity. CalRecycle seeks stakeholder input on these through discussion at this workshop and in writing.

1. Reuse – Do products in working condition retain sufficient value to encourage reuse over cancellation or should more be done to incentivize reuse?
2. Repair – What are common reasons that products “fail to perform”? Can they be fixed by replacing one or more components if they were readily accessible?
3. How can we encourage design to make reuse, repair and recycling more efficient and cost effective?
4. Are there specific attributes of a product that would make it easier (or more difficult) to dismantle or recycle?
5. Would modulated fees be effective in encouraging more environmentally preferable product design?
6. From a policy perspective, should legislation be amended to incentivize reuse and repair? How?